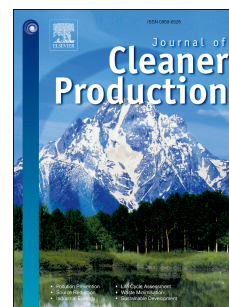


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Voluntary business engagement in climate change: a study of the ClimateWise principles

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Abstract

There is an expectation that the insurance sector should be leading business efforts in responding to climate change due to their inherent exposure to increasing risks. However, insurance companies normally operate on a one year time horizon - underwriting risks through policies which change each year to reflect new knowledge of these risks. The ClimateWise principles is a voluntary initiative of the insurance sector that was launched in 2007 to provide a basis for insurance companies to engage with climate change risks. This paper introduces the ClimateWise initiative and explores progress made since its launch. The paper presents new knowledge on whether this voluntary initiative provides a useful structure for the insurance sector in responding to the challenge of climate change. It finds that while the insurance sector has engaged with climate change, there is much more to do and we welcome the recent changes to ClimateWise that more accurately reflect this. The paper concludes that ClimateWise has been a useful initiative for the insurance companies and as a potential benchmark for the sector it offers some value. However, ClimateWise has not provided a strong enough engagement across the sector to embed climate action into business decisions.

Keywords

Climate change

Insurance

Voluntary

Business initiatives

Corporate engagement

Principles

Highlights

- The insurance sector's exposure to climate risks is increasing
- ClimateWise has been a useful voluntary initiative for insurance companies
- However, ClimateWise does not provided a strong enough engagement across the sector
- ClimateWise has become more realistic in its assessment of insurance action

1. Introduction

Climate change, and wider sustainability challenges, offer significant risks and opportunities for the business community. While certain national or regional policies have been implemented, such as the European Emissions Trading Scheme, policy action still remains inadequate to mitigate climate impacts. Therefore, the world is increasingly exposed to systemic and large climate risks (King et al., 2015).

In the absence of an overarching policy framework many voluntary business initiatives have been set up to further debate and action on specific issues. These include a number of sector specific initiatives that focus on sharing best practice. Examples of such initiatives within the finance sector include the International Climate Risk Network set up by pension funds in the United States, the Institutional Investors Group on Climate Change in Europe and the Capital Market Climate Initiative set up by the United Kingdom government which brings together public and private sector organisations in investment (Jones, 2015). In addition several professional bodies have also released reports exploring the impact of climate change on the sectors that they represent (see for example, Lovell & Mackenzie, 2011, Hudson, 2012, Jones et al., 2013). Increasingly voluntary principles have been adopted by business led groups such as the Principles for Responsible Investment, the Equator Principles and the United Nations Principles for Sustainable Agriculture. Indeed academia has also responded by supporting voluntary initiatives such as the Rio+20 Deceleration on Higher Education and the United Nations Principles for Responsible Management Education (Godemann et al., 2014).

However, one sector that is often singled out for its exposure to climate risk is the insurance sector (see for example, Jóhannsdóttir, Wallace & Jones, 2012; Mills, 2012; Jóhannsdóttir, et al., 2014). There are several initiatives and groups that represent the insurance sector's engagement with the climate change agenda. Four initiatives have released joint or sole statements to international policy makers, such as the United Nations Framework Convention on Climate Change (UNFCCC), and identify themselves as representing the (global) insurance sector in these statements. These are the Geneva Association (2014), the Munich Climate Insurance Initiative (MCII, 2012), the United Nations Principles for Sustainable Insurance (UNEP, 2012) and ClimateWise (2009, 2013).

The aim of this paper is to explore the insurance sector's engagement with climate change action and whether a particular voluntary business initiative supports this engagement. Specifically we wish to extend the understanding of the depth of engagement across the sector. We also wish to contribute to the currently limited academic study on whether these types of voluntary initiatives provide an effective structure for businesses in identifying real business drivers to change practice.

The next section presents a literature review of voluntary business initiative responses to climate change and specifically focusses on the insurance sector. Section 3 then describes the research methodology and section 4 details the ClimateWise initiative, history and process of annual reporting. Section 5 presents an assessment of the evolution of this annual reporting to describe progress made to date. In section 6 we explore future directions for voluntary insurance initiatives. Finally in section 7 concluding thoughts are given.

2. Literature Review

Climate change is often framed as a long term problem, however “recent climate changes have had widespread impacts on human and natural systems” (IPCC, 2014, p2). In particular, recent extreme weather events have had significant human and financial impact (IPCC, 2014; Mills, 2012). The extent to which the likelihood of these risks have increased due to climate change, as well as changes in exposure due to infrastructure development (building in areas that are more prone to environmental risks or the increase in the value of assets), is still disputed. However, there is an increasing focus on providing better methods for managing climate change impacts (see for example UNEP, 2013).

While government action to respond to climate change is still evolving many businesses have adopted voluntary practices in anticipation of future legislation or to benefit from near-term financial returns such as energy efficiency (Falkner, 2003; Hoffman, 2005). Without a clear business driver, most often because of legislative imperative, voluntary initiatives can sometimes present a barrier to real action (Southworth, 2009; Gardiner, 2002; Alberini & Segerson, 2002).

Indeed previous studies of voluntary initiatives have been shown to have no effect on business practice although the majority of academic studies into such groups have focussed on the motivations of businesses in signing up to them rather than their effectiveness (Morgenstern & Pizer, 2007). Often the motivations include the potential for improved business reputation however a recent study has found that voluntary carbon disclosure has led to negative investor perceptions of those companies involved in the reporting (Lee, Park & Klassen, 2015). Without real engagement such voluntary initiatives could be viewed as simply contributing to greenwash (Kim & Lyon, 2014; Meyerstein, 2015) where companies report good practice publicly while not changing business processes.

Voluntary initiatives do provide a useful platform for sharing knowledge across sectors (Southworth, 2009) although it has been noted that reporting against voluntary initiatives, apart from those directly reducing emissions, does not often include external verification or auditing of data and lacks transparency (Southworth, 2009). Therefore, assessing the effectiveness of such voluntary initiatives, in particular whether they help tackle the challenges of climate change, is often difficult.

Whether there is evidence for climate change already having an impact on our weather systems or not, what is clear is that the likelihood of extreme weather events is going to increase with a changing climate and that this will increase risk exposure (Reiman, 2007; IPCC, 2014). Therefore, business engagement with this increased risk exposure offers a useful framing for the exploration of these types of voluntary initiative. Insurance companies play two roles in tackling these risks (ClimateWise, 2009; Karl, Nicholls & Ghazi, 2013) – risk management expertise/knowledge and risk transfer mechanisms. It is in the provision of risk transfer mechanisms that insurance companies either succeed or fail.

Risk transfer mechanisms allow organisations or individuals to pay a premium to an insurance company. This premium is added to a pool such that, on average, an insurance company's exposure is spread across multiple risks (either by type,

geography or organisation) to ensure that in the event of a pay out on that risk the insurance company is able to remain solvent. A reference point for this solvency measure is a 1-in-200 year rare but plausible event. This is the scale by which the insurance industry tests its one-year exposure to liability and allows them to ensure they have the minimum capital required to remain solvent in the face of such an event (Michel-Kerjan & Morlaye, 2008; Smillie, Epperlein & Pandya, 2014; Von Bomhard, 2010).

As risks from extreme weather events increase the exposure of insurance companies (Reiman, 2007) there are several ways that insurers can manage this. Insurance contracts can place new exclusions (such as not insuring particular flood impacts), insurance premiums or deductibles can be increased, insurance cover can be reduced or insurance companies can decide not to renew insurance contracts where the risk has increased too much (Mills, 2005; Perroy, 2005; Jóhannsdóttir et al., 2012).

However, while insurance companies may have a better handle on the direct impacts of weather events on claims there is less certainty on their indirect exposure – especially as extreme events can have large economic impacts. In particular many insurance classes including terrorism and political violence, agriculture, aviation and marine, political risk, business interruption, environmental liability, and product liability and recall may be impacted. For example, there is a potential link between flooding events and mental health and depression (Few, Ahern, Matthies, and Kovats, 2004) which in turn will be covered by life and in-work insurance policies. Weather events that impact food production can have far ranging insurance impacts because of the global interconnected nature of markets (Miranda & Glauber, 1997; Xu, Filler, Odening & Okhrin, 2010; Goodwin & Hungerford, 2015).

Given the direct and indirect exposure that insurance companies have to climate change there is an expectation that they should be leading efforts in responding to climate change (Mills, 2005). As noted above insurance companies manage these risks on an annual basis and have several tools that can be used to reduce their exposure to the risk rather than having to reduce the overall risk itself. Insurance companies are engaged in better quantifying the short term exposures they face as well as collaborating to understand the potential longer term impacts of climate change on their sector (Jóhannsdóttir et al., 2012).

While the future risk landscape is impacted by climate change it is not clear that insurance companies have an immediate business driver for fully incorporating climate risk into their decision making process, at least to the extent that others may expect (Mills, 2009). Legislation currently does not compel the insurance sector to embed climate risk into business process. The insurance sector's engagement with climate change action covers a range of issues and only a minor part relates to their direct impact on greenhouse gas emissions through the operations of insurance companies (Johannsdottir et al., 2014; Jóhannsdóttir et al., 2012; Mills, 2009). Similarly to other parts of the finance sector (see for example, Meyerstein, 2015 who studies the Equator Principles which cover project finance) the insurance sector has, partly, responded to the risks associated with climate change by creating voluntary initiatives.

Four key voluntary initiatives, that purport to be global in nature, exist in the insurance sector. Each provides a platform for sharing best practice and include the Geneva Association (2014), the Munich Climate Change Insurance Initiative (MCII, 2012) and the United Nations Principles for Responsible Sustainable Insurance (UNEP, 2012) and ClimateWise.

The Geneva Association was set up in 1973 and is a non-profit whose members are insurance or reinsurance chief executive officers. The Geneva Association has a statutory maximum of 90 members worldwide (Geneva Association, 2015). It describes itself as a think tank and has three research programmes, one of which is 'Extreme Events and Climate Risk' (Geneva Association, 2015). As such output from the Geneva Association can be considered leading edge thinking within the insurance sector and may not be representative of the general engagement across the sector with the issue of climate change. The Munich Climate Insurance Initiative (MCII) was set up by Munich Re and, similarly to the Geneva Association, concentrates on developing and testing new insurance approaches. However, MCII is not a membership organisation although it does solely focus on climate change as an issue. Similarly to the Geneva Association MCII is unlikely to be representative of general engagement across the insurance sector.

The United Nations Principles for Sustainable Insurance is an initiative of the United Nations Environment Programme Finance Initiative (UNEP, 2012). It has 83 organisations who have signed up to the principles as of 2015 and was launched in 2012. Each signatory organisation commits to producing an annual disclosure against the principles although there is no common framework for this reporting and only 14 organisations have produced annual reports each year since the principles were launched. One of the longest running voluntary initiatives specifically focussed on climate change and insurance is the ClimateWise initiative (Thistlethwaite, 2011) which was launched in 2007 and includes a requirement that members report annually against a set of principles. The reports are independently reviewed against the ClimateWise principles each year by a third party and that analysis is made public. When launched ClimateWise had 41 members and in the last reporting cycle ClimateWise included 19 members (PWC, 2015).

With reports from 2008 to 2015 ClimateWise allows the examination of the evolution of engagement of the insurance sector and climate change action. As the self-reported nature of ClimateWise is mitigated by an independent review organisation this may also mitigate some of the potential 'greenwash' (Kim & Lyon, 2014). The public and transparent nature of the reporting also allows the testing of whether these types of initiatives are useful in changing business practice as it will give a better sense of how, and if, business practices change over time. Therefore, to explore the effectiveness of a voluntary insurance initiative this paper focusses on ClimateWise.

3. Research Methods

In this paper the role of ClimateWise is explored, and in particular the ClimateWise Principles, in advancing the engagement of the insurance sector with the issue of climate change. Godemann et al. (2014) proposed a methodology to explore a similar voluntary initiative and we use the structure of that paper while noting that this is the first academic study, as far as we are aware, of the effectiveness of a

voluntary insurance initiative and as such provides a useful contribution to scientific knowledge.

Godemann et al. (2014) propose examining in detail the self-reported responses to a voluntary initiative. In particular, Godemann et al. (2014) outline a voluntary initiative which covers business schools, notably the United Nations Principles for Responsible Management Education (PRME), and structure the analysis in their paper as follows. Initially they outline the purpose and mission of a specific voluntary action and clearly outline the principles and process of PRME. They then go on to describe the progress of PRME by drawing on the self-presentations made by PRME members through the Sharing Information on Progress reports (Godemann et al., 2014). They use the statistics as reported against PRME alongside other literature to assess progress. Godemann et al. (2014) structure their review of progress around membership and the implementation of the principles as reported by the members.

Every member of ClimateWise is required to report annually against the set of six ClimateWise Principles and a number of sub-principles (see Appendix). All reports are then examined in each annual cycle and a progress report published which includes the average scores of the sector against each principle (CISL, n.d.). This paper uses those reported average scores (based on the scoring system outlined in this section) for our analysis.

In 2013 ClimateWise members did not report against the principles and instead worked on developing a new sub-principle structure and scoring system (PWC, 2014). The overarching six principles remain the same. Therefore, there are two time series for ClimateWise reporting namely 2008 to 2012 and 2014 onwards.

Each sub principle from 2008 to 2012 was scored on a points system based on disclosure and compliance (see for example Forum for the Future, 2008). One point was awarded for disclosing an appropriate level of detail regarding an organisation's approach to each sub-principle and up to two points are then awarded for full or partial compliance. A suitable explanation to why there was no disclosure or compliance would make an organisation exempt from this score. This point score was then taken as a percentage of the total possible points available to give a percentage score.

The new scoring system in 2014 scored each organisation against altered sub-principles with three levels of evidence. This was to encourage members (PWC, 2014) to prioritise climate change related activity based on the issues most important to their organisation and understanding the outcomes, social and environmental, of initiatives in response to climate change. Certain organisation types became automatically exempt from some of the sub-principles due to lack of relevance and members could also exempt themselves from up to four more based on a reasonable explanation. Furthermore, an additional two points for each principle could be awarded based on planning activities to drive improvements against a principle, but these are separate from the sub principle scores. In 2014, some of the sub-principles were also merged with other sub-principles, separated or removed completely.

In order for this paper to compare the restructured 2014 sub-principles with the sub-principles in previous years, we separated out the new sub-principles based on a comparison of how the sub-principles changed. For example, sub-principles 2.1, 2.3, 2.4 and 2.5 were all combined into just 2.1 in 2014. So to measure how these had changed, the score quoted for 2.1 in 2014 was given to all the sub-principles that had previously been together (2.3, 2.4 and 2.5) in reports 2008 to 2012. Some sub-principles, 4.3 and 4.5 for example, had been removed completely so were not included in the comparison.

As well as this, in 2014 points were not converted into percentages of total possible points like in the previous reports, but left as just raw scores. To get a final measure of the difference between the organisation's scores between these two scoring systems we converted the 2014 and 2015 raw scores into a percentage of the total possible score for each sub-principle.

4. The ClimateWise Initiative

ClimateWise is one of the oldest climate specific voluntary groups within the insurance sector and includes members from Europe, North America, Asia and Africa (CISL, n.d.). An initial convening of a small group of senior representatives from the insurance sector (mainly Chief Executive Officers based in the United Kingdom) was hosted by His Royal Highness the Prince of Wales in 2006 (Forum for the Future, 2008). This group agreed to work together on a platform for collaboration. The group set up a working party who met at the Association of British Insurers over a number of months and developed the ClimateWise Principles. The Principles, and the ClimateWise initiative, was officially launched in 2007.

ClimateWise members pay an annual fee and agree to report against the ClimateWise Principles each year (CISL, n.d.). These reports are reviewed each year by appointing an independent organisation through an open tender process every few years. In the first two years this review was conducted by Forum for the Future (Forum for the Future, 2008, 2009) and latterly by PriceWaterhouseCoopers (PWC 2010, 2011, 2012, 2014, 2015). A report is published each year based on this review. In addition ClimateWise members undertake collaborations and release reports on specific issues where issues are deemed to be industry wide. These collaborations have focussed on areas including claims management, supply chains and policy.

The ClimateWise Principles consist of six top level principles and a number of sub-principles (see Appendix for the full list of the ClimateWise Principles and sub-principles). Every member has to report against each principle or explain why they are unable to, for example a professional body who has no investments does not report against principle 4 (CISL, n.d.). The following are the six principles of ClimateWise:

1. Lead in risk analysis
2. Inform public policy making
3. Support climate awareness amongst our customers
4. Incorporate climate change into our investment strategies
5. Reduce the environmental impact of our business
6. Report and be accountable

These principles offer the insurance sector an opportunity to engage on the direct and indirect impacts of climate change and in particular explore the insurance sector's wider role in managing the risks associated with these impacts. They cover sharing the insurance sector's expertise as risk assessors as well as their role in the provision of risk transfer mechanisms through engagement with clients. In addition the principles cover the investment exposure of insurance companies and their own environmental impact. Principle 6 commits the companies to the annual report and to being open and transparent about their engagement in this issue.

An important aspect of ClimateWise above and beyond the principles is the ability for member organisations to discuss and partner on cross sector issues (CISL, n.d.). Several collaborations have been set up since the launch of ClimateWise and a number of reports published. These include claims management, city resilience, insurance for carbon capture and storage, investment, health and emerging markets.

5. Progress of ClimateWise

This section presents a quantitative review of the progress of members of ClimateWise. We note that ClimateWise underwent a strategic review of its effectiveness in 2013 (PWC, 2014) which resulted in an updated process for measuring the success of the principles. We will outline the impact of this strategic review on the ClimateWise Principles.

5.1 Membership

ClimateWise was set up in 2006 initially including a working group representing 16 organisations (CISL, n.d.). The first independent review against the ClimateWise Principles was conducted in 2008 (Forum for the Future, 2008) and represented the peak in membership for ClimateWise – 41 individual organisations. Table 1 shows the breakdown in reporting organisations by year of report.

Table 1

ClimateWise reporting organisations by year of annual report (Forum for the Future, 2008, 2009; PWC, 2010, 2011, 2012, 2014, 2015).

Year of ClimateWise Report	Number of reporting organisations
2008	41
2009	37
2010	26
2011	26
2012	27
2014	20
2015	19

As can be seen in Table 1 there has been a dramatic decline in reporting organisations against ClimateWise Principles. One explanation for this is that between 2009 and 2010 Lloyd's of London (the insurance marketplace) changed its reporting procedure and incorporated all of its member organisations reports into one. Therefore, the Lloyd's of London members counted as one organisation in 2010. Taking this into account ClimateWise reported 34 member organisations in 2014 (as opposed to 20 reporting organisations) and 31 members in 2015 including

those in Lloyd's of London who wished to be identified as members. However, the drop from 41 to 31 is still large.

As can be seen in Table 2 not only is there a drop in membership but over half (25 of 41) of the original membership are no longer explicitly part of ClimateWise. This appears to be down to a number of factors including the decision by Lloyd's of London companies to report as one through Lloyd's of London, although it is noted that some Lloyd's organisations chose to remain as explicitly involved in ClimateWise whereas others did not. More worryingly perhaps is the number of large insurers in the United Kingdom who appear to have dropped out of ClimateWise over this period including Lloyds TSB, HBOS, Royal Bank of Scotland, Friends Provident, NFU Mutual and Standard Life. It should be noted that some of these members are now signatories to the United Nations Principles for Sustainable Insurance. Notable new members include the global insurance broker Willis as well as insurers from other countries such as Tokio Marine (Japan) and Santam (South Africa). At this point we also note that due to the incorporation of Lloyd's of London representatives into one report the comparisons between reported scores across the sector in 2008 and 2009 may be impacted and some differences with later years could be due to this.

Table 2

ClimateWise member organisations in 2008 and 2015 (Forum for the Future, 2008; PWC, 2015).

2008	2008	2015
ABI	✓	✓
ACE	✓	✓
AIG	✓	
Allianz	✓	✓
Amlin	✓	✓
AON		✓
ArgoGlobal		✓
ARK	✓	
Aviva	✓	✓
AXA (UK)	✓	
Beazley	✓	✓
Benfield	✓	
BIBA	✓	
Catlin	✓	
CII		✓
Chaucer	✓	
Co-operative Insurance	✓	
Cunningham Lindsey		✓
Diagonal Underwriting	✓	
Direct Line		✓
Equity Group	✓	
F&C Asset Management	✓	
Friends Provident	✓	
Hardy's Underwriting	✓	
HBOS	✓	

Heritage	✓	
Hiscox	✓	✓
If		✓
Innovation Group		✓
Legal & General	✓	
Lloyd's of London	✓	✓
Lloyds TSB	✓	
Marketform	✓	
Marsh		✓
MSIG		✓
Munich Re	✓	
Navigators	✓	✓
NFU Mutual	✓	
Novae		✓
Prudential	✓	✓
QBE European Operations	✓	✓
RBS	✓	
Renaissance Re		✓
Risk Management Solutions	✓	✓
RJ Kiln	✓	
RSA	✓	✓
Santam		✓
Spectrum	✓	
Standard Life	✓	
Swiss Re (UK)	✓	✓
Tokio Marine Kiln		✓
Tokio Marine Nichido		✓
UNUM	✓	
Willis		✓
XL	✓	✓
Zurich (UK)	✓	✓

However, the current membership of ClimateWise still represents a useful portion of the insurance sector as a whole, certainly at the UK level. For example, ClimateWise members include 100% of UK companies in the global top 2000 (Forbes, 2016) for insurance brokers and the insurance diversified sub-sector. ClimateWise includes 40% (2 of 5) of UK life insurers and 50% of property and casualty insurers in the top 2000. It is worth noting that Legal & General and Standard Life, 2 of the other 5 UK life insurers in the top 2000, used to be members of ClimateWise. Globally, ClimateWise members are the 2nd, 7th, 9th, 20th, 33rd and 38th largest diversified insurance companies (Forbes, 2016), the 1st and 2nd largest brokers, 3rd and 8th largest life insurance companies and the 2nd, 4th, 9th and 18th largest property and casualty insurers. In addition, ClimateWise members include the UK Chartered Insurance Institute which has over 120,000 individual members and Lloyd's of London which includes over 200 registered insurance brokers. Until 2015 ClimateWise also included the UK Association of British Insurers which represents over 90% of the UK insurance market (ABI, n.d.).

ClimateWise was launched in 2007 by His Royal Highness the Prince of Wales. The initial working group met in London and as such the group was heavily dominated by UK based organisations. In 2010 ClimateWise reported (PWC, 2010) that members were based in the following regions – United Kingdom (77%), United States (11%), Denmark (4%), Japan (4%) and South Africa (4%). Therefore, while ClimateWise can be seen as international it is dominated by UK members and particularly dominated by English language countries (92%).

In 2012 ClimateWise reported (PWC, 2012) the following breakdown of types of members which represents a broad range of insurance organisations – non-life (37%), life (4%), non-life/life (33%), professional body/trade association (7%), marketplace (4%), reinsurance (7%), brokers (4%) and modelling companies (4%). Therefore, while it is dominated by UK companies ClimateWise does cover a broad range of insurance types.

We therefore conclude that ClimateWise does represent the breadth, and to a certain extent depth, of the insurance sector but while it has evolved to be more internationally balanced this is partly due to UK companies dropping out.

5.2 Progress against the principles

Overall, the average reported scores prior to the review of ClimateWise showed members were doing extremely well in adhering to all principles with most sub principles scoring above 90% compliance by 2012. This suggests that in 2012 most members were doing nearly everything in their power to take into account climate change in their organisation (PWC, 2012).

Figures 1-6 show the progress made by ClimateWise in terms of each sub-principle score given over the period 2008 to 2015 based on the ClimateWise annual reports 2008 to 2012 and our alterations to the 2014 to 2015 scores in order to compare.

Principle 1 (lead in risk analysis) seen in Figure 1, in which organisations scored highly between 2008 and 2009 and then scored between 90% and 100% throughout 2010 to 2012, saw a drop in average score across the principle to below 50% in 2014. This large drop shows how the insurance sector is failing to account for its quality of data, its consideration of new technologies in their insurance products and in their support for forecasting future events. Sharing of information and supporting research is still being done fairly well, but not as well as portrayed in the earlier reports. In 2015 a great improvement in this principle's average score was seen, rising 27% to 65% on average overall.

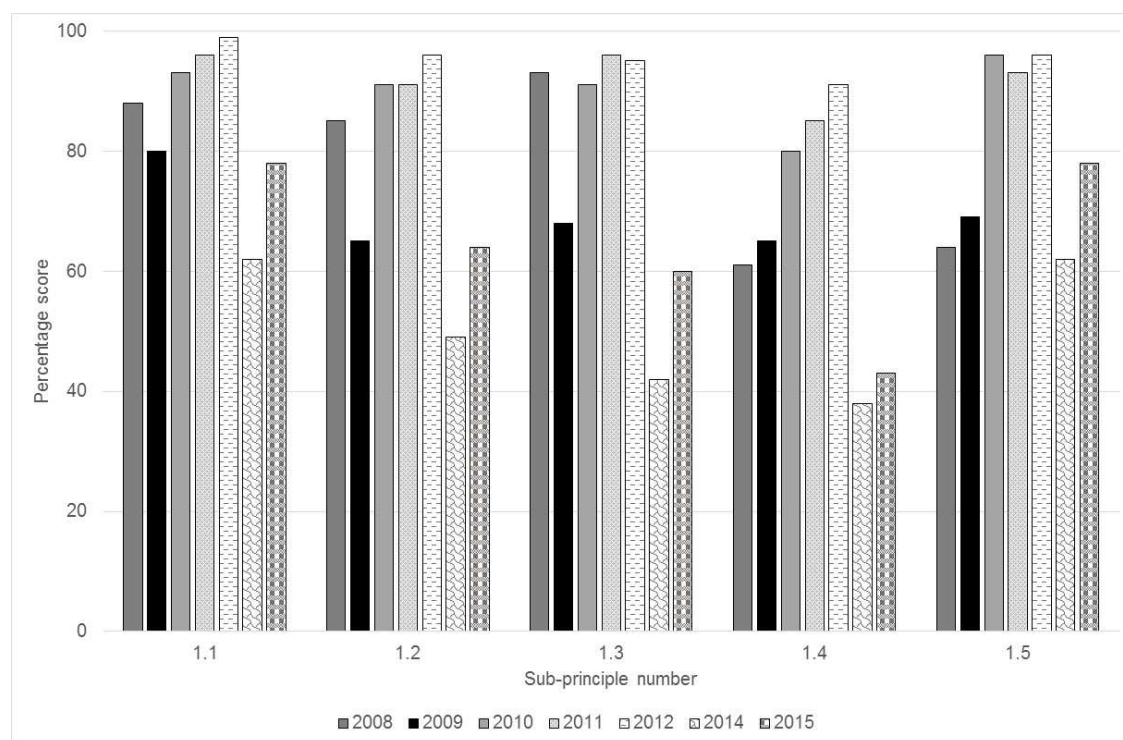


Fig. 1: ClimateWise scores for sub-principles under Principle 1: Lead in Risk Analysis for 2008-2015

This increase in 2015 may suggest that the change in sub-principles in 2013 meant that some reporting members did not change their reporting method in 2014 and therefore scored much lower than they had given the new criteria. Reporting members then improved their reporting processes in 2015 and improved their scores. Therefore it could, partly, be a process issue. It may also reflect that companies reporting against voluntary initiatives are very good at reporting once they learn how the reports will be assessed and may not reflect any underlying change in how their respective organisations engage with climate change although it should be noted there is no direct evidence for this. It may also reflect a genuine increase in engagement across the ClimateWise membership in 2015 however there is no supporting evidence to back this up either. We therefore conclude it is likely to be a mix of increased real engagement coupled with better reporting practice against the new criteria.

Principle 2 (inform public policy making), seen in Figure 2, saw a drop in score in 2014 but not as much as for principle 1. Being consistently between 80% and 90% throughout 2008-2012, the average score in 2014 dropped to 60%. The gains in 2015 are very marginal at less than 1% overall with the score for 2.2 actually decreasing slightly. There needs to be more work done with policy makers to make the economy more resilient to climate risk and the insurance sector needs to encourage more public debate on climate change issues.

The smaller change between 2014 and 2015 here suggests that companies were already reporting accurately against the new principles in 2014 (unlike principle 1) however, it also indicates that the members of ClimateWise have indicated that they believe they should be doing more in engaging with policy to better respond to

climate change and this is then reflected in the lower score across the membership. However, the drop is smaller than for other principles.

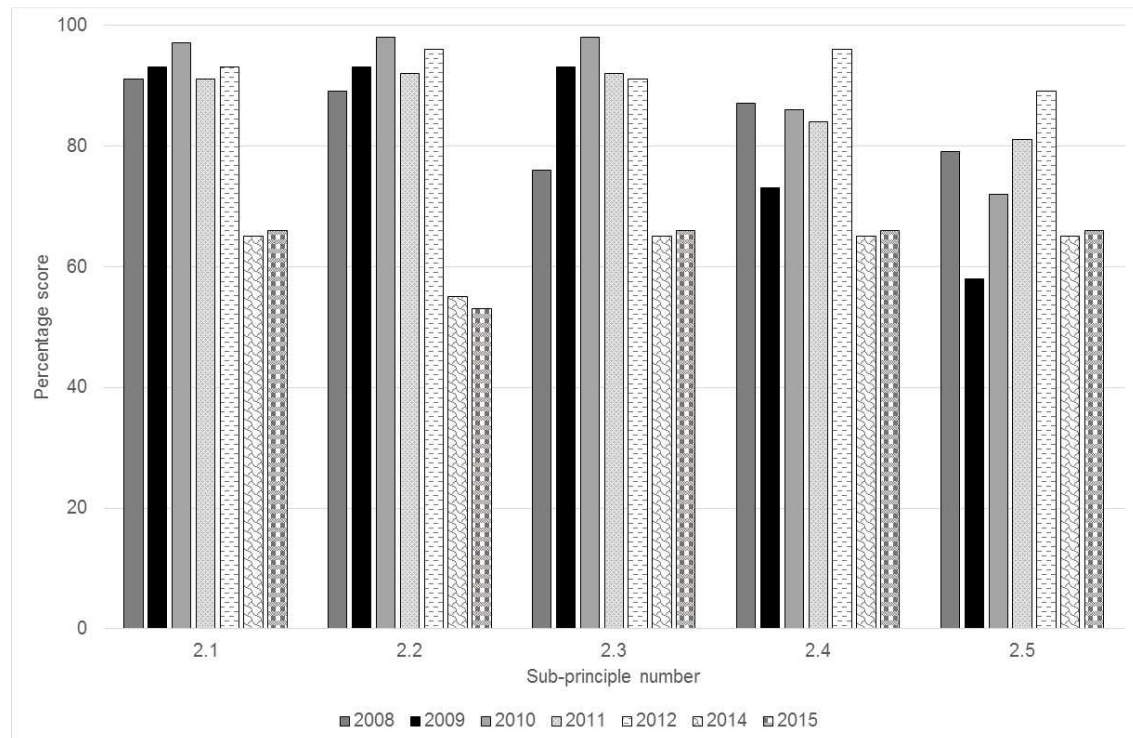


Fig. 2: ClimateWise scores for sub-principles under Principle 2: Inform public policy making for 2008-2015

Principle 3 (support climate awareness amongst customers), seen in Figure 3, saw the most dramatic falls in average score in 2014, a 50% drop to 46%. The most prominent drop, 96% to 39%, is 3.2 which is about encouraging customers to reduce greenhouse gas emissions by using insurance products and services to incentivise positive change around climate change mitigation. The average score rose in 2015 by 13%, with improvement from 3.1, 3.2 and 3.4 but a decrease in 3.3.

This 2015 improvement is encouraging but overall this score shows more needs to be done in promoting climate awareness amongst insurance customers, especially when settling non-life claims and encouraging customers to adapt to climate change. This principle covers the core business of ClimateWise members – that of providing insurance cover. It is therefore interesting to note that this principle scores worse than others and that the change in scoring methodology reflects a recognition that the previous high scores did not accurately reflect the insurance sector's full engagement in climate change as a core business issue when setting contracts and working with clients.

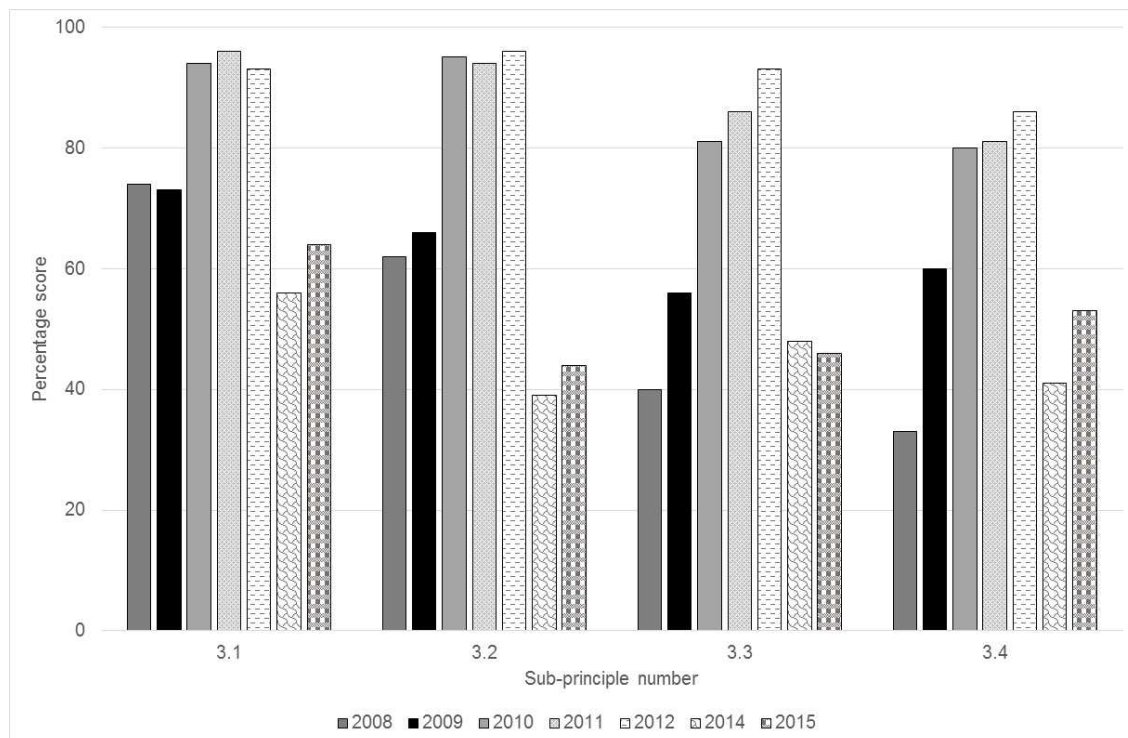


Fig. 3: ClimateWise scores for sub-principles under Principle 3: Support climate awareness amongst our customers for 2008-2015

Principle 4 (incorporate climate change into our investment decisions), seen in Figure 4, saw the most restructuring of all the principles in 2014, with two sub-principles from the 2008 to 2012 scoring system ceasing to be measured at all. Sub-principles 4.2 (encourage disclosure), 4.3 (improving climate resilience of property portfolio) and 4.5 (sharing information with pension trustees), which were removed, were very specific and could be considered part of an overall investment management strategy. However, given that a number of initiatives now exist to encourage disclosure of climate risk led by insurance companies (see for example, UN, 2014) it is disappointing to see that this specific sub-principle has been removed.

After another large fall in score in 2014, 39% from 84% to 51%, there was a marginal 6% improvement overall in 2015. This is mainly due to a rise in 4.1 meaning that organisations are doing more to evaluate the implications of climate change on investment. The new sub-principle 4.2 (incorporate material risk in investment decision making), which was part of 4.1 before 2012, went down between 2014 and 2015. This means that while companies are doing more to evaluate the risk they are acting less on this information.

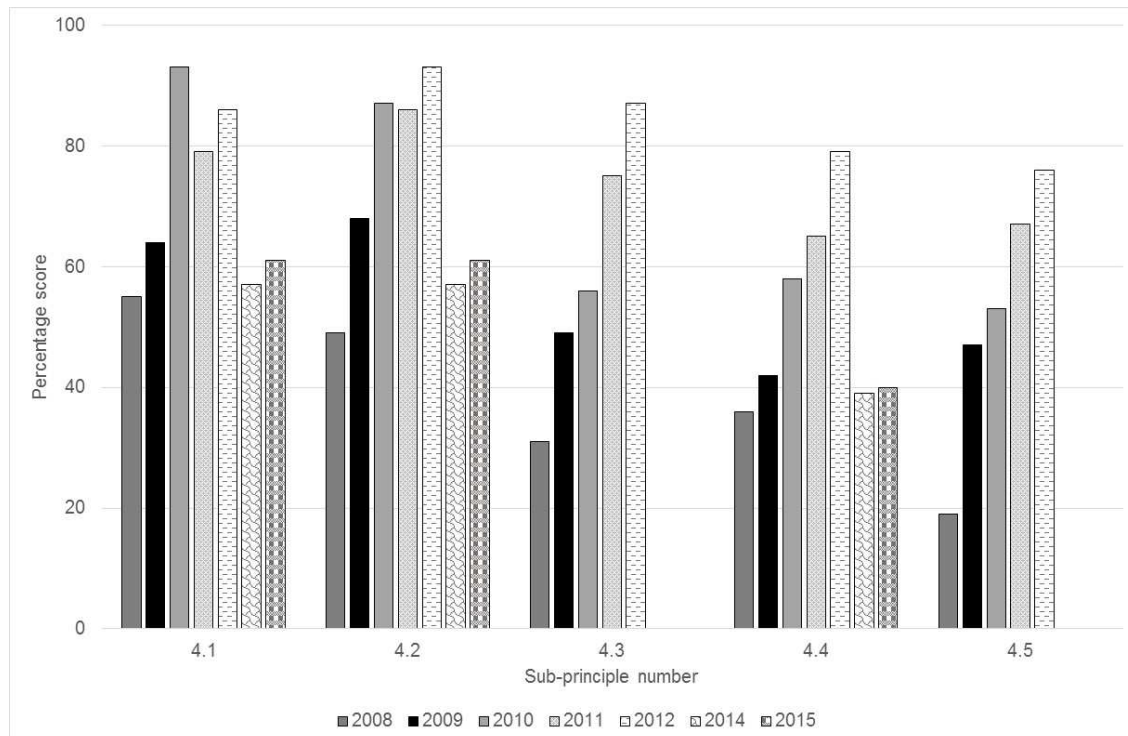


Fig. 4: ClimateWise scores for sub-principles under Principle 4: Incorporate climate change into our investment strategies for 2008-2015

The structure of principle 5 (reduce the environmental impact of our business), seen in Figure 5, and what it was aiming to measure, was not restructured with the new scoring system. However, it did see a large drop in performance, 36% from 90% to 57% from 2012 to 2014. Between 2014 and 2015 there was a slight improvement of 7%. The largest drop in score was for sub-principle 5.4 on employee engagement (from 94% to 40%).

While prior to 2012 the reviews summarised good practice in providing opportunities for staff engagement the scoring criteria in 2014 focusses more on staff uptake of these opportunities. This change in focus seems to account for the significant drop in score for this sub-principle and represents a welcome change to the scoring criteria whilst also demonstrating a potential lack of real engagement across and within the insurance sector above and beyond those directly involved with initiatives such as ClimateWise.

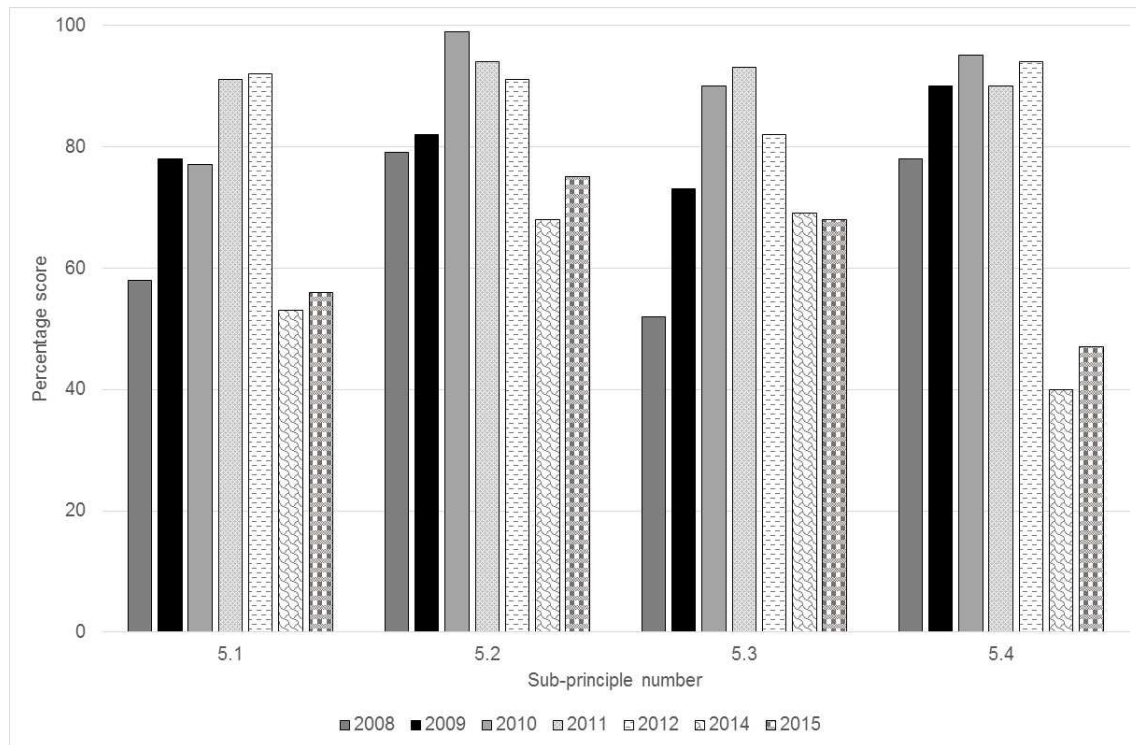


Fig. 5: ClimateWise scores for sub-principles under Principle 5: Reduce the environmental impact of our business for 2008-2015

The final principle, principle 6 (report and be accountable) seen in Figure 6, also did not change in structure with the new scoring system. Another large fall is seen here between 2012 and 2014 of 36% from 98% to 63%. This drop is mostly due to a dramatic fall in 6.1, covering engagement with the boards of the member organisations, from 96% to 42%. Sub-principle 6.2 did not drop as sharply, from 100% to 83%. Sub-principle 6.2 is by far the best performing sub-principle post-restructure but also arguably the most simple and straightforward for organisations to adhere to as it directly covers the requirement to report against the ClimateWise Principles. However it does show that organisations are actively publishing statements detailing their actions on the principles, but greater effort needs to be made to establish these principles at the board level.

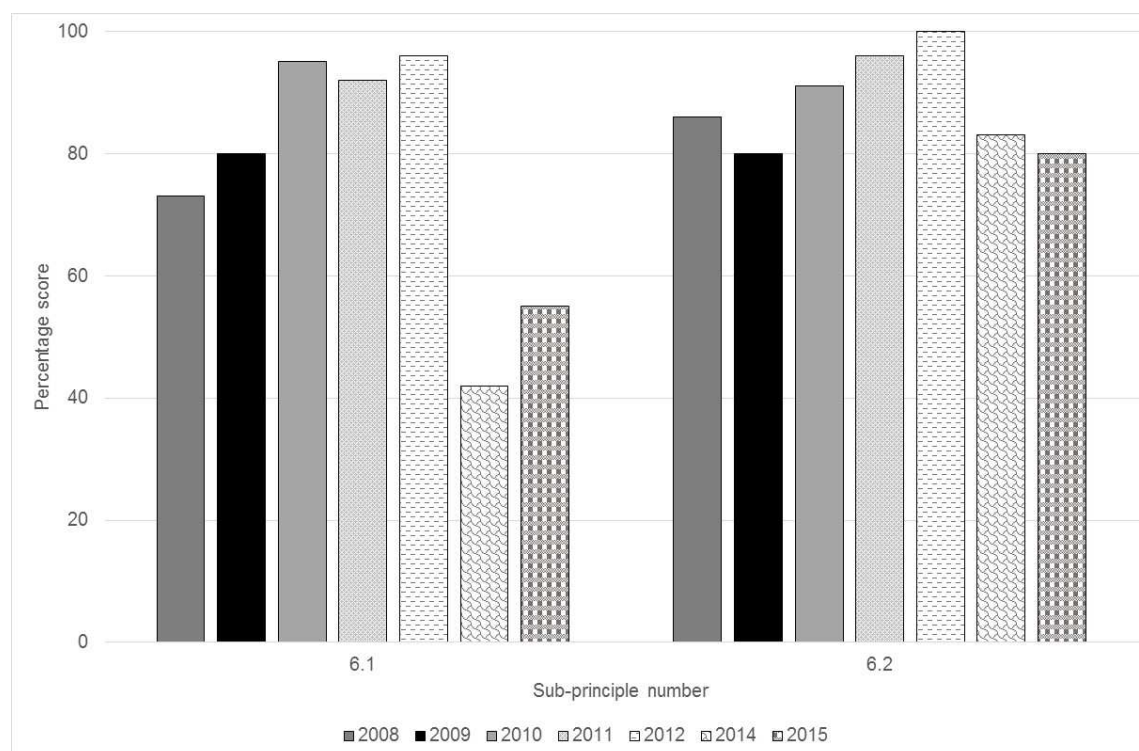


Fig. 6: ClimateWise scores for sub-principles under Principle 6: Report and be accountable for 2008-2015

Figures 1-6 shows that the new scoring system saw a dramatic fall in all sub-principle scores and each overall principle score dropped between 30% and 50% in 2014. Many sub-principles that were scored in the 90%'s in 2012 were subsequently scored between 40% and 60% in 2014. Specifically, principles 1, 2, 3, 4, 5 and 6 showed 47%, 32%, 50%, 43%, 35% and 36% drops in their scores respectively. The report published in 2015 (PWC, 2015) states that this was because the bar was intentionally raised in order to provide a greater challenge to organisations and “highlights how the membership is adapting and advancing in response to climate change” (PWC, 2015, p7). The principles are also more concise and easier to read. It is also worth stating that although scores for the years 2008 to 2012 seem to have been overestimated we should not ignore the progress made 2008 to 2012. There was some improvement, albeit marginal due to the scores already being very high.

Overall ClimateWise members appear to be well placed in sharing their expertise in risk management (principle 1) and have made steps to incorporate this into their own investments (principle 4). However, they have done less in the area where there is an expectation that insurance could lead - namely helping clients or society in general to reduce that risk (principles 2 and 3). They have also done less well in lowering their own carbon footprints (principle 5). They do remain committed to reporting progress on climate change (principle 6).

6. Discussion

The aim of this paper is to explore the insurance sector's engagement with climate change action and whether a particular voluntary business initiative supports this engagement. The ClimateWise Principles cover both the role of the insurance sector in the wider management of climate risk as well as helping to understand the sector's

own climate risk exposure. In this way it represents a holistic and useful process for the insurance sector to engage with. Having outlined the progress made by ClimateWise members as captured through reporting against principles we now explicitly address the aim outlined above by reviewing whether there is evidence of real business engagement.

While ClimateWise reviews prior to 2013 showed a dramatic engagement with climate change actions from insurance organisations (all scores were above 80%) the new structure of ClimateWise reporting presents a more accurate reflection in our view. We would argue that prior to this change ClimateWise suffered from a common issue with voluntary initiatives (Southworth, 2009; Morgernstern & Pizer, 2007) namely providing cover for the sector while no real business changes were taking place.

While we note that within the latest ClimateWise reviews (PWC, 2014, 2015) percentage figures are not presented we believe that looking at the percentage figures, as in previous reports, is still useful, if not vital. The average scores in 2014 across the six ClimateWise Principles were 50% (lead in risk analysis), 63% (inform public policy making), 46% (support climate awareness amongst our customers), 51% (incorporate climate change into our investment strategies), 58% (reduce the environmental impact of our business) and 62% (report and be accountable).

The two most important roles that insurance companies play (ClimateWise, 2009) – risk management expertise and risk transfer mechanisms are well covered within the ClimateWise Principles. However, core aspects of these roles score particularly badly. Within risk transfer sub-principle 3.2 covers encouraging customers to adapt to climate change and reduce their greenhouse gas emissions through insurance products and services and scores below 40%. In responding to climate change, new technology deployment is expected to play a major part and sub-principle 1.4 which is core to risk transfer mechanisms (evaluate the risks associated with new technologies for tackling climate change so that new insurance products can be considered in parallel with technological developments) scored below 40%.

On risk management expertise one sub-principle stands out with scores lower than 40%. Sub-principle 4.3 covers communicating the insurance company's investment beliefs and strategy on climate change to clients and beneficiaries. Sub-principle 4.2, which asks whether businesses are acting on their own knowledge within their investment decisions, actually saw a drop in scores between 2014 and 2015.

These low scores demonstrate much more is needed to really embed climate risk assessment and response into the insurance sector. In particular, society as a whole, and business in particular, should not be reliant on the insurance sector as a manager of climate risk of last resort. We see the insurance sector as a vital part of climate risk understanding but the sector as a whole should be seen as part of an ongoing dialogue in climate risk management and not as the sole provider of solutions.

Taken together the response to ClimateWise Principles, following the review of scoring criteria and principles in 2013, would tend to indicate that the insurance sector is actually much closer to the start of a journey in acting on climate risk. In

particular, with respect to the lowest scoring sub-principles the sector is currently more focussed on learning lessons itself and not in a position to communicate this with, or work with, clients either on the insurance or investment side.

Prior to 2013 ClimateWise could well be seen as part of corporate 'greenwash' (Kim & Lyon, 2014; Meyerstein, 2015) even with external scrutiny included in its process. However, this more realistic assessment of the current state of play in the insurance sector is very welcome as it gives ClimateWise a better platform from which to focus their efforts both in increasing internal expertise and then sharing this across the sector as well as supporting outreach activities from a much more informed perspective. In this way ClimateWise may now play a more constructive role in supporting further efforts by the insurance sector in their engagement with climate change. However, we note that the United Nations Principles of Sustainable Insurance may be a threat to ClimateWise, in particular given the lack of evidence that the independent review of ClimateWise makes a substantive difference.

Below we outline some specific issues and thoughts on the future direction of ClimateWise associated with membership and collaboration.

6.1 Membership

Since the launch in 2007 ClimateWise remains largely a United Kingdom (UK) initiative. While individual companies have joined from Japan, United States, Denmark and South Africa, and a number of the companies are international, further internationalisation should be a priority for ClimateWise if it is to remain relevant. It is also worrying to note that a number of large insurance companies in the United Kingdom, as well as the Association of British Insurers (CISL, n.d.), have dropped out of ClimateWise over this period. It would be important to understand why this is the case and to rebuild relationships with these organisations if the initiative is to remain relevant.

The launch of the United Nations Principles for Sustainable Insurance (UNEP, 2012) and how these impact the relevance of ClimateWise should be further reviewed. We note in particular that some of the members that have dropped out of ClimateWise have signed up to these new principles although there are also companies who have signed up to both. We note that the UN principles do not include an annual independent review of progress made against the principles although it is unclear whether this has made a difference in real business engagement across the member organisations within ClimateWise which may be counter to expectations and the findings of other studies (for example, Southworth, 2009).

Prior to 2013 the scores for the ClimateWise Principles had, generally, improved year on year. In 2012 all principles scored above 90% in compliance apart from principle 4 (84%). Indeed of the principles scoring higher than 90% only 3 sub-principles scored lower than 90%. Principle 4 covers investment and was consistently highlighted in the independent reports as an area that lagged behind the general progress made by ClimateWise reporting members. However, a score of 84% is still considered very high. Therefore, generally the picture of climate change engagement in the insurance sector was very positive.

As an engagement strategy and ability to attract new members this approach to the principles could be seen as both positive and negative. As a voluntary initiative there is a risk that something that is seen as overtly critical of the sector could be too challenging for recruitment and retention of members - it is noted that the lowest scoring member in 2014 dropped out in 2015 (PWC, 2015). However, an initiative that regularly scores all members towards the top cannot provide any challenge and could be accused of greenwash (Kim & Lyon, 2014; Meyerstein, 2015). Around the time of the review there were assessments that indicated the insurance sector had much more to do to increase its engagement in this space (Jóhannsdóttir, Wallace & Jones, 2012).

One area of concern is whether membership of ClimateWise helps organisations to embed climate change issues across their organisations. As noted previously while the ClimateWise Principles measured the structure of internal engagement opportunities the member organisations scored well (94% in 2012) but when they started to measure uptake and engagement against those opportunities there was a dramatic drop (40% in 2014). This could indicate that the continued success of ClimateWise is highly dependent on a few committed individuals within specific insurance companies and it has not been institutionalised or embedded into the organisations of those individuals or across the insurance sector. This is both a threat for ClimateWise but also a failing in its intention to move the whole sector forward in engagement with climate change.

6.2 Collaboration and wider engagement

Throughout its history ClimateWise has also supported member companies to prepare and release policy statements. These statements have been captured under principle 2. In particular ClimateWise released a statement in support of specific emissions reduction targets (ClimateWise, 2009) in the run up to the Copenhagen Conference of the Parties in 2009 as part of the United Nations Framework Convention on Climate Change. In addition ClimateWise has worked with a number of insurance groups collaborate to release policy statements (see for example, UNEP, 2010, ClimateWise, 2013).

ClimateWise has partnered on a European framework 7 research (Enhance, n.d.). Starting in 2012 ClimateWise also published thought leadership articles by senior members of ClimateWise reporting organisations. However, since the review of the Principles in 2014 these thought leadership articles have not been published and therefore it appears this was a short-lived activity of ClimateWise which is disappointing given the possibility of such articles to engage senior leadership as well as a wider audience across the sector.

The use of ClimateWise as a platform for collaboration could be seen as a key aspect of the initiative however there are no objective measures on the success or impact of the current collaborations and more research is needed here to test its effectiveness.

7. Conclusions

This paper presented a description of the ClimateWise initiative within the insurance sector. It sought to develop an understanding of progress made to date and make recommendations for future directions. The paper presents new knowledge on

whether this voluntary initiative provides a useful structure for the insurance sector in responding to the challenge of climate change and whether it supports companies in identifying real business drivers to change practice.

We consider that reporting members have benefited from engaging with the ClimateWise Principles and the platform that the initiative provides is a useful one for the insurance sector. As a potential benchmark we see that it offers some value to the wider insurance sector. In particular we welcome the review of the ClimateWise Principles that took place in 2013 as this, in our opinion, now reflects more accurately the state of engagement between the insurance sector and climate change. Prior to 2013 the ClimateWise Principles would tend to indicate that the insurance sector was doing all it could to respond to the challenge of climate change however post the review this is clearly not the case. As such we argue that this earlier approach has been useful in promoting engagement between individual insurance companies and ClimateWise but it has not provided a strong enough engagement across the sector to embed climate action into business decisions and indeed may have undermined efforts to do this as companies's could highlight excellent scores as an excuse not to invest further in business decision processes.

We find no evidence that the process of public reporting has provided enough of a challenge to ClimateWise members to go beyond greenwash. This would imply that reporting, even with an external review of those reports, is not a key driver in supporting voluntary initiatives to go beyond greenwash. This finding goes counter to other academic studies of such initiatives (Southworth, 2009) and more study of similar groups and comparisons across such groups is needed to test this further. The review of ClimateWise in 2013 does improve the platform that ClimateWise offers and potentially moves it away from greenwash.

Given the history and our findings of ClimateWise's progress we feel the launch of the United Nations Principles for Sustainable Insurance is a particular threat to ClimateWise which could see its members move to this new voluntary initiative. However, the body that facilitates these new principles could in turn learn lessons from ClimateWise and, while we found no evidence to support the findings of other studies around the importance of independent review, to make principles effective requires continuous scrutiny and challenge whether from an external group or internal members. An external independent review at least makes it easier to measure and monitor the effectiveness of such an initiative.

There is scope for further work across the insurance sector and we particular emphasise the need for more effort in engaging with those not directly involved in these types of voluntary initiatives – both within the member organisations themselves and with other stakeholders such as policy makers or clients. This key aspect should be a strong focus going forward and a collaborative platform is a strong basis from which to further develop this activity.

8. Conflict of interest

The authors note no conflict of interest. The lead author was part of the HRH Prince of Wales' leadership group that facilitated ClimateWise in 2006 prior to its launch and sat on its steering group for two years. However, the lead author is no longer involved in ClimateWise.

9. Acknowledgements

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10. Appendix: ClimateWise Principles

The following lists the principles and sub-principles of ClimateWise as used in the figures and analysis presented in this paper. They are the original principles agreed and launched by ClimateWise in 2007 (Forum for the Future, 2008).

Principle 1: Lead in risk analysis

- 1.1 Support and undertake research on climate change to inform our business strategies and help to protect our customers' and other stakeholders' interests.
- 1.2 Support more accurate national and regional forecasting of future weather and catastrophe patterns affected by changes in the earth's climate.
- 1.3 Use research and improve data quality to inform levels of pricing, capital and reserves to match changing risks.
- 1.4 Evaluate the risks associated with new technologies for tackling climate change so that new insurance products can be considered in parallel with technological developments.
- 1.5 Share our research with scientists, society, business, governments and NGOs through an appropriate forum.

Principle 2: Inform Public Policy Making

- 2.1 Work with policy makers nationally and internationally to help them develop and maintain an economy that is resilient to climate risk.
- 2.2 Promote and actively engage in public debate on climate change and the need for action.
- 2.3 Support work to set and achieve national and global emissions reduction targets.
- 2.4 Support Government action, including regulation, that will enhance the resilience and reduce the environmental impact of infrastructure and communities.
- 2.5 Work effectively with emergency services and others in the event of a major climate-related disaster.

Principle 3: Support climate awareness amongst customers

- 3.1 Inform our customers of climate risk and provide support and tools so that they can assess their own levels of risk.
- 3.2 Encourage our customers to adapt to climate change and reduce their greenhouse gas emissions through insurance products and services.
- 3.3 Increase the proportion of repairs that are carried out in a sustainable way through dialogue with suppliers and developers and manage waste material appropriately.

3.4 Consider how we can use our expertise to assist the developing world to understand and respond to climate change.

Principle 4: Incorporate climate change into our investment decisions

- 4.1 Consider the implications of climate change for company performance and shareholder value, and incorporate the information into our investment decision making.
- 4.2 Encourage appropriate disclosure on climate change from the companies in which we invest.
- 4.3 Encourage improvements in the energy-efficiency and climate resilience of our investment property portfolio.
- 4.4 Communicate our investment beliefs and strategy on climate change to our customers and shareholders.
- 4.5 Share our assessment of the impacts of climate change with our pension fund trustees.

Principle 5: Reduce the environmental impact of our business

- 5.1 Encourage our suppliers to improve the sustainability of their products and services.
- 5.2 Measure and seek to reduce the environmental impact of the internal operations and physical assets under our control.
- 5.3 Disclose our direct emissions of greenhouse gases using a globally recognised standard.
- 5.4 Engage our employees on our commitment to address climate change, helping them to play their role in meeting this commitment in the workplace and encouraging them to make climate-informed choices outside work.

Principle 6: Report and be accountable

- 6.1 Recognise at company board level that climate risk has significant social and economic impacts and incorporate it into our business strategy and planning.
- 6.2 Publish a statement as part of our annual reporting detailing the actions that have been taken on these principles.

The following represent the new principles of ClimateWise as used in 2015 (PWC, 2015).

Principle 1: Lead in risk analysis

- 1.1 Support and undertake research on climate change to inform our business strategies and help to protect our customers' and other stakeholders' interests. Where appropriate, share this research with scientists, society, business, governments and NGOs in order to advance a common interest.
- 1.2 Support national and regional forecasting of future weather and catastrophe patterns affected by changes in the Earth's climate.
- 1.3 Use research and improve data quality to inform levels of pricing, capital and reserves to match changing risks.
- 1.4 Evaluate the risks associated with new technologies for tackling climate change so that new insurance products can be considered in parallel with technological developments.

Principle 2: Inform public policy making

2.1 Work with policy makers nationally and internationally to help them develop and maintain an economy that is resilient to climate risk. This should include supporting the implementation of emissions reductions targets and, where applicable, supporting government action that seeks to enhance the resilience and reduce the environmental impact of infrastructure and communities.

2.2 Promote and actively engage in public debate on climate change and the need for action.

Principle 3: Support climate awareness amongst our customers

3.1 Inform our customers of climate risk and provide support and tools so that they can assess their own levels of risk.

3.2 Encourage our customers to adapt to climate change and reduce their greenhouse gas emissions through insurance products and services.

3.3 Seek to increase the proportion of non-life claims that are settled in a sustainable manner.

3.4 Through our products and services assist markets with low insurance penetration to understand and respond to climate change.

Principle 4: Incorporate climate change into our investment strategies

4.1 Evaluate the implications of climate change for investment performance and shareholder value.

4.2 Incorporate the material outcomes of climate risk evaluations into investment decision making.

4.3 Communicate our investment beliefs and strategy on climate change to clients and beneficiaries.

Principle 5: Reduce the environmental impact of our business

5.1 Engage with our supply chain to work collaboratively to improve the sustainability of their products and services.

5.2 Measure and seek to reduce the environmental impact of the internal operations and physical assets under our control.

5.3 Disclose our direct emissions of greenhouse gases using a globally recognised standard.

5.4 Engage our employees on our commitment to address climate change, helping them to play their role in meeting this commitment in the workplace and encouraging them to make climate-informed choices outside work.

Principle 6: Report and be accountable

6.1 Ensure that the organisation is working to incorporate the Principles into business strategy and planning by encouraging the inclusion of the social and economic impacts of climate risk as part of the Board agenda.

6.2 Publish a statement as part of our annual reporting detailing the actions that have been taken on these principles.